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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------------------|------------------------|
| 10/550,031 | 09/21/2005 | Fredrik Hermann | 9342-82 | 7348 |
| 20792 7590 09/18/2007 MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627 | | | EXAMINER ZUBAJLO, JENNIFER L | |
| | | | ART UNIT 2629 | PAPER NUMBER |
| | | | MAIL DATE 09/18/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/550,031 | Applicant(s) HERMANN, FREDRIK | |
| | Examiner Jennifer Zubajlo | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>10/5/2006 & 5/17/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robert O. Renfer (WO 00/54479) in view of Cleopatra Cabuz (Patent No.: US 6,215,221).

As to claim 1, Renfer teaches a terminal comprising: a terminal body (see fig.1 – portable communications device 1); a data output interface comprising a display disposed on a face of said terminal body (see figure 1 – optical display 2); and a data input interface comprising a keypad, which is extractable by a linear movement (see figure 1 – keyboard 5) from a storage space inside said terminal body (see Abstract – “integrated into the mobile telephone”), wherein said keypad is disposed on a flexible film (Abstract – “keyboard extension which is flexible”) supported by a pulley comprising a retractor mechanism that is biased to retract said film into said storage space (Abstract – “drawn into the mobile telephone by means of a spring mechanism”).

Renfer doesn't teach wherein said terminal body comprises an activator mechanism that is configured to apply an electrical current through said film, wherein

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said film comprises a material which is configured to change from a flexible mode to a stiff mode responsive to application of the electric current.

Cabuz teaches said terminal body comprising an activator mechanism (see figure 1 – actuator 11) that is configured to apply an electrical current through said film (see column 4 lines 51-67 – “any flexible elastic polymer that permits it to deform as described herein. Fabrication of the sheets may be based upon technology developed for keyboard and flexible circuits” & figure 1 – power supply 19), wherein said film comprises a material which is configured to change from a flexible mode to a stiff mode responsive to application of the electric current (see figure 1 and claim 1 – “an actuator device controlling the shape of a flexible surface”).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to have been motivated to incorporate the activator mechanism that is configured to apply an electrical current through a flexible film to change its shape taught by Cabuz into a terminal comprising: a terminal body, a data output interface comprising a display disposed on a face of said terminal body, and a data input interface comprising a keypad, which is extractable by a linear movement from a storage space inside said terminal body, wherein said keypad is disposed on a flexible film supported by a pulley comprising a retractor mechanism that is biased to retract said film into said storage space taught by Renfer in order to create a more user friendly keyboard device.

As to claim 2 (dependent on claim 1), Renfer teaches said terminal body has a front face supporting said display, and a back face opposite said front face, wherein said keypad is extractable from an aperture disposed at a side of said terminal between said front face and said back face (see figure 1)

As to claim 4 (dependent on claim 1), Renfer teaches said pulley configured to retract and roll up said film, when in a flexible mode, about a roller (see figure 1 & Abstract – “the keyboard extension can be foldable or unwound or rolled up”).

As to claim 10 (dependent on claim 1), Renfer teaches said terminal comprising a radio communication terminal (see Abstract – “portable communications device”).

3. Claims 3, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robert O. Renfer (WO 00/54479) in view of Cleopatra Cabuz (Patent No.: US 6,215,221) further in view of Eric Morgan Dowling (Pub. No.: US 2003/0050019).

As to claim 3 (dependent on claim 1), the combination of Renfer and Cabuz teach the limitations as outlined in the above rejection of claim 1.

The combination of Renfer and Cabuz doesn't teach said keypad comprising a gripping portion at an outer end of said film.

Dowling teaches said keypad comprising a gripping portion at an outer end of said film (see [0015] & [0045]).

It would have been obvious to one skill in the art at the time of the invention was made to have been motivated to incorporate the activator mechanism that is configured to apply an electrical current through a flexible film to change its shape taught by Cabuz into a terminal comprising: a terminal body, a data output interface comprising a display disposed on a face of said terminal body, and a data input interface comprising a keypad, which is extractable by a linear movement from a storage space inside said terminal body, wherein said keypad is disposed on a flexible film supported by a pulley comprising a retractor mechanism that is biased to retract said film into said storage space taught by Renfer with a keypad gripping portion, a detector mechanism, and a locking mechanism in order to create a more user friendly keyboard device.

As to claim 5 (dependent on claim 1), the combination of Renfer and Cabuz teach the limitations as outlined in the above rejection of claim 1.

The combination of Renfer and Cabuz doesn't teach the terminal further comprising a detector mechanism that is configured to detect when said film has been extracted from said storage space to a fully extracted position and to respond to that detection by causing said activator mechanism to apply an electrical current through said film.

Dowling teaches the terminal further comprising a detector mechanism that is configured to detect when said film has been extracted from said storage space to a fully extracted position (see [0015], [0045] & [0049]). Dowling doesn't directly teach a response to that detection that causes said activator mechanism to apply an electrical

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current through said film, however the electric current (power supply) is taught by Cabuz and it is obvious that a detector must be used in order to switch modes.

As to claim 6 (dependent on claim 1), the combination of Renfer and Cabuz teach the limitations as outlined in the above rejection of claim 1.

The combination of Renfer and Cabuz doesn't teach said pulley comprises a locking mechanism that is configured to inhibit movement by said retractor mechanism when said film has been extracted from said storage space to a fully extracted position.

Dowling teaches said pulley comprises a locking mechanism that is configured to inhibit movement by said retractor mechanism when said film has been extracted from said storage space to a fully extracted position (see [0015], [0045] & [0049]).

As to claim 7 (dependent on claim 5), the combination of Renfer and Cabuz teach the limitations as outlined in the above rejection of claim 1. The combination of Renfer, Cabuz, and Dowling teach the limitations as outlined in the above rejection of claim 5.

Dowling teaches said detector mechanism is configured to detect when a pulling force is applied on said film when the film is located in said fully extracted position, whereupon said detector mechanism causes said activator mechanism to stop applying the electric current to said film (see [0015], [0045], and [0049]). Said detector mechanism causing said activator mechanism to stop applying the electric current to said film is not taught directly, however it is obvious from the rigidity system that can be

made unrigid taught by Dowling to have a detector to determine when the keypad/keyboard needs to become unrigid. Applying the electric current is taught by Cabuz as described above.

4. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robert O. Renfer (WO 00/54479).

As to claim 8, Renfer teaches a terminal comprising: a terminal body (see fig.1 – portable communications device 1); a data output interface comprising a display disposed on a face of said terminal body (see figure 1 – optical display 2); and a data input interface comprising a keypad, which is extractable by a linear movement (see figure 1 – keyboard 5) from a storage space inside said terminal body (see Abstract – “integrated into the mobile telephone”), wherein said keypad is disposed on a flexible film (Abstract – “keyboard extension which is flexible”) supported by a pulley comprising a retractor mechanism that is biased to retract said film into said storage space (Abstract – “drawn into the mobile telephone by means of a spring mechanism”).

Renfer doesn't teach wherein the flexible film is curved with a shallow U-shape in a cross-section transverse the longitudinal extension of the film when extracted from said storage space and the film then subsequently automatically maintains a straight shape outside said storage space of the terminal body.

However, it is obvious from the ability of the keyboard to roll up that a u shape in a cross-section transverse the longitudinal extension of the film when extracted from

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said storage space would be created (see Abstract and figure 1) and it is shown that a straight shape is maintained when keyboard is extracted (see figure 1).

As to claim 9 (dependent on claim 8), Renfer teaches the terminal wherein the flexible film is extractable through a slot having a curvature that corresponds to the shallow U-shape of the flexible film as the film is extracted from said storage space of the terminal body (see figure 1). It would be an obvious choice of design to have a slot in a shape that corresponds to the shape of the flexible film being extracted.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Zubajlo whose telephone number is (571) 270-1551. The examiner can normally be reached on Monday-Friday, 8 am - 5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JZ
9/14/2004


AMARE MENGISTU
SUPERVISORY PATENT EXAMINER